REMARKS

The Applicants have studied the Non-Final Office Action dated July 10, 2008 and have made amendments to Claims 1 and 8. Claims 2-7 and 9-25 have been cancelled. New Claim 26 has been added. No new matter has been added. Independent Claims 1, 8, and 26 are pending in the application.

Please enter and consider the following amendment and remarks prior to examination of the above-identified application. This amendment is being submitted to expedite the patent application process in a manner consistent with PTO's Patent Business Goals (PBG), 65 Fed. Reg. 54603 (September 8, 2000).

The Applicants have amended the claims by canceling all dependent claims and further amending independent Claims 1 and 8 and adding new independent Claim 26, which corresponds to canceled independent Claims 15 and 22. It is submitted that the application, as amended, is in condition for allowance.

The Applicants are not conceding in this application that the cancelled claims are not patentable over any prior art, as the present claim amendments and cancellations are only for facilitating expeditious prosecution of allowable subject matter. Applicants respectfully reserve the right to pursue the cancelled and other claims in one or more continuations and/or divisional patent applications.

Reconsideration and allowance of the pending claims in view of the above amendments and following remarks is respectfully requested.

Non-Entered Response With Amendment

The Applicants submitted a Response With Amendment along with a Request For Continued Examiner on June 20, 2008. In the present Non-Final Office Action, the Examiner only references the After-Final Amendment filed by the Applicants on March 3, 2008. Therefore, the Examiner did not receive the Response With Amendment filed on June 20, 2008 prior to mailing the present Non-Final Office Action. Accordingly, the following remarks and arguments include, at least in part, the remarks and arguments made in the Response With Amendment filed on June 20, 2008.

Amendments To The Drawings

Amendments to drawings figures 2, 3, and 4, have been made to correct minor informalities. See attached appendix with three Replacement Sheets that show clean copy of the proposed minor corrections, as described below.

In particular, FIG. 2 previously failed to show a connection between "LAN Hub B" and "Gateway B". The Applicants have corrected FIG. 2 to add the connection.

FIG. 3 incorrectly showed both items "316" and "318" with label "Network Interface Card A". The Applicants have correctly relabeled the object pointed to by reference number "318" as "Network Interface Card N".

FIG. 4 previously showed the reference number "306" to refer to the "Cluster Resource Manager", while the same reference number is used in FIG. 3 to refer to the "Operating System". Applicants have corrected the reference number "306" in FIG. 4 to be "304" correctly identifying the Cluster Resource Manager, also as shown in FIG. 3.

While the Applicants included their proposed amendment to the figures in their Response dated March 3, 2008, and the present Non-Final Office Action referenced such Response, the present Office Action did not acknowledge Applicants' proposed

amendment to the figures. Therefore, the Applicants hereby re-submit their proposed amendment to the figures and respectfully request that the Examiner acknowledge in a subsequent Office Action that Applicants' proposed amendment to the figures has been considered and accepted. More specifically, the Applicants kindly request that the Examiner accept the proposed corrections to FIGs. 2, 3, and 4, such that the minor informalities in the drawings are corrected.

Rejection Under 35 U.S.C. 103

The Examiner rejected Claims 1-25 under 35 U.S.C. §102(e), as being unpatentable over Farchmin et al. (U.S. Patent Application Publication No. 2006/0129640) in view of Zhang et al. (U.S. Patent No. 7,321,926).

The Applicants have cancelled claims 2-7 and 9-14, thereby rendering the rejection of these claims moot. However, the subject matter of claims 2-7 (along with additional subject matter) has been incorporated into amended claim 1. Amended claim 8 recites similar to amended claim 1.

Farchmin is directed to a method and system for providing information related to a set of automated resources such as a robotic arm that may cooperate in an environment to perform an automated process such as printed circuit board assembly. Farchmin teaches that a specific environment location is associated with the automated process. The locations of resources with respect to the specific location are determined. Farchmin further teaches that when resources are proximate to a specific location, information related to the automated process is provided to the resources. Farchmin also teaches facility communication between distributed resources where location or an attribute akin thereto is used to tag data and to monitor network data for specific required data.

In contrast, the Applicants have amended independent claims 1 and 8 and added new claim 26 to more clearly recite:

> identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system, wherein the set of resource equivalencies comprise a resource equivalency representing a plurality of

physically distinct resources that are logically equivalent, and wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies, wherein identifying the set of resource equivalencies comprises:

receiving a user specification of resource equivalencies for an autonomic computing system, wherein the specification of resource equivalencies includes at least a resource class type specification and a set of resource relationships associated with a set of resources for accomplishing a desired end state of the autonomic computing system, wherein the set of resource relationships received from the user only specify relationships associated with a top-most level set of resources in the set of resources, wherein an availability of one or more of the top-most level set of resources is dependent on the availability of one or more resources of a lower level set of resources in a reverse hierarchy of dependencies from top-most level to lowest level set of resources;

creating at least one grouping of resources of the at least one resource class type;

creating a filter from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user;

removing from the at least one grouping of resources any resource that does not match the filter;

defining a set of resources remaining in the at least one grouping as a set of equivalent resources, wherein each resource in the set of equivalent resources perform at least one substantially similar service, the at least one substantially similar service corresponding to the corresponding to the resource class type specification; and

automatically discovering resource attributes related to the user specification of resource equivalencies;

wherein automatically discovering resource attributes comprises:

harvesting implicit relationships among the set of resources via self-discovery, wherein the set of implicit relationships at least indicate one or more of a set of resource dependencies for at least one resource in the set of resources and location requirements for at least one resource in the set of resources, and wherein the set of implicit relationships are discovered automatically without the user explicitly specifying the implicit relationships, wherein the set of implicit relationships are relationships associated from the top-most level set of resources to a lower level set of resources in the set of resources;

discovering an additional resource based on the harvesting;

matching attributes of the additional resource to the filter;

including the additional resource in the set resources remaining in the at least one grouping defined as the set of equivalent resources;

discovering a resource deletion from the autonomic computing system;

determining whether that the resource deletion is represented in the set of resources remaining in the at least one grouping defined as the set of resource equivalencies; and

removing the resource from the set of resource equivalencies; and

nesting two or more sets of equivalent resources within the set of resource equivalencies;

storing the set of resource equivalencies in memory;

selecting at least one resource equivalency from the set of resource equivalencies;

selecting at least one resource from the selected resource equivalency; and

using the selected at least one resource as required by the autonomic computing system to perform at least one service.

Applicants have incorporated one or more of the dependent claims into the above claim and have added additional language as well. Support for this amendment can be found in the U.S. Pre-Grant Publication No. 2005/0091351 of the present application at, for example, FIG. 3, FIG. 4, and FIG. 6 and paragraphs [0032], [0035], [0036], [0045], [0046], and [0048]-[0062]. No new matter was added.

(A) The Applicants would like to first point out that Farchmin does not teach or suggest resource equivalencies as recited for the presently claimed invention. For example, the presently claimed invention states "wherein each resource in a resource equivalency performs substantially identical services as other resources in the resource equivalency, the substantially identical services corresponding to the user specification of resource equivalencies". Farchmin explicitly states at paragraph [0083] "qualifiers that follow some of the resource type labels are used to distinguish instances of a single resource type where the instance has some characteristic that is different, from a control perspective, than other instances of the same resource type. For example, labels R1a and R1b are used to earmark PCB insertion machines where the "a" and "b" qualifiers

indicate that the each of the machines has machine characteristics that are distinct form the other". As can be seen, Farchmin teaches that resources can be of a same type, but be distinct from one another. In other words, these resources perform different services.

Therefore, Farchmin does not teach or suggest that **each** resource in a resource equivalency performs substantially identical services as other resources in the resource equivalency. It actually teaches away from such a concept. On the other hand, for example, the Specification as originally filed on page 20, line 109, states "A concept utilized to simplify the relationship specification between resources is that of an equivalency of resources. The idea behind "equivalency" is that when a collection of resources provide the same services, one or more of these resources can be chosen to perform services. Basically, resources that have the same function (such as Network Interface Cards) but are distinct physical entities (e.g., two different physical cards), will be considered as the same, or equivalent, logically. Therefore, if a resource in an equivalency 418 fails, another resource in the equivalency 418 will be chosen to continue the services. Membership in an equivalency 418 can be specified by either statically numerating a membership list, or dynamically through discovery of resources with equivalent attributes." Also, nowhere does Farchmin teach or suggest that these substantially identical services correspond to the user specification of resource equivalencies.

(B) With respect to Claims 1 and 8, the Examiner states that Farchmin teaches:

> Identifying a set of resource equivalencies based on at least one of a user specification of resource equivalencies, and automatic discovery of resource related to the user specification of resource equivalencies (paragraphs [0027-0028, 0090-0092, 0146])

The Applicants respectfully disagree. Paragraphs [0027-0028] of Farchmin merely state:

> Hereinafter, unless indicated otherwise, the term "resource" will be used broadly to refer to any equipment required to perform any part of an automated process including a controller, a machine (e.g., drill, mill, insertion machine, dryer, robotic press, etc.), a

> sensor, an actuator, an I/O rack, a human-machine interface (HMI), etc., or any combination of the above.
>
> It has been recognized that resource location can be employed as an attribute for identifying various types of process information corresponding to an automated process associated with the resource and the specific location. More specifically, resource location can be employed to automatically provide information useable to configure a resource or group of resources to perform an automated process. The information may be manually useable by an operator to configure the resources to perform the process, may be used automatically to configure the resources to perform the process or may be used automatically to configure the resources to perform part of the process while the operator performs complimentary manual steps to configure other aspects of the resource combination to complete the process.

Farchmin in paragraph [0027] is merely defining the term "resource" and in paragraph [0028] is stating that resource location can be employed to automatically provide information useable to configure a resource or group of resources to perform an automated process. This is not the same as the presently claimed "identifying a set of resource equivalencies comprising a resource equivalency representing a plurality of physically distinct resources that are logically equivalent, wherein identifying the set of resource equivalencies comprises: receiving a user specification of resource equivalencies for an autonomic computing system, wherein the specification of resource equivalencies includes at least a resource class type specification and a set of resource relationships associated with a set of resources for accomplishing a desired end state of the autonomic computing system, wherein the set of resource relationships received from the user only specify relationships associated with a top-most level set of resources in the set of resources, wherein an availability of one or more of the top-most level set of resources is dependent on the availability of one or more resources of a lower level set of resources in a reverse hierarchy of dependencies from top-most level to lowest level set of resources... and automatically discovering resource attributes related to the user specification of resource equivalencies..."

In other words using resource location as an attribute for identifying various types

of process information corresponding to an automated process associated with the resource and the specific location, as taught by Farchmin, is clearly different from the presently claimed invention including identifying a set of resource equivalencies based on at least one of a user specification of resource equivalencies and automatic discovery of resource attributes related to the user specification of resource equivalencies.

Paragraphs [0090-0092] in Farchmin merely discuss in detail the use of resource location for configuring a resource to perform an automated process. Paragraph [0146] of Farchmin merely states that information can be automatically used to configure a sub-set of resource to perform a process or that an operator can configure a resource sub-set.

Also, it should be noted that Farchmin appears to be teaching the importance in a configuration process of tracking and addressing the differences of similar types of resources that are proximately located. See, for example, Farchmin discussing problems it is attempting to solve in the discussions found in paragraphs [0010] to [0012], and [0021] and [0026].

Furthermore, amended claims 1 and 8 now more clearly recite:

> identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system…wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies

Nowhere does Farchmin teach or suggest this claim element. In fact, Farchmin is completely silent on "wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies".

The teachings of the selected citations discussed above may use generally similar terms as the present application such as resource, attribute, automatically, and operator. However, using a resource location so that resources can be configured or having an operator configure resources is completely different than identifying resource equivalencies.

Accordingly, since **(1)** Farchmin is completely silent on the presently claimed "identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system...wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies, wherein identifying the set of resource equivalencies comprises: receiving a user specification of resource equivalencies for an autonomic computing system, wherein the specification of resource equivalencies includes at least a resource class type specification and a set of resource relationships associated with a set of resources for accomplishing a desired end state of the autonomic computing system, wherein the set of resource relationships received from the user only specify relationships associated with a top-most level set of resources in the set of resources, wherein an availability of one or more of the top-most level set of resources is dependent on the availability of one or more resources of a lower level set of resources in a reverse hierarchy of dependencies from top-most level to lowest level set of resources... and automatically discovering resource attributes related to the user specification of resource equivalencies..., and **(2)** further since Farchmin appears to be teaching just the opposite objective by highlighting the differences of resources in its configuration process of similar types of resources that are proximately located, it is believed that the presently claimed invention distinguishes over Farchmin for at least these reasons.

(C) The Examiner also states that Farchmin teaches:

> selecting at least one resource equivalency from the set of resource equivalencies (paragraphs [0033, 0138]);
>
> selecting at least one resource from the selected resource equivalency (paragraphs [0032, 0120]);
>
> using the selected at least one resource as required by an autonomic computing system to perform at least one service (paragraphs [0035, 0120, 0144]).

Paragraph [0038] of Farchmin merely states:

> The invention also includes a method for providing information related to a set of resources that may cooperate in an environment to perform a process, the method comprising the steps of associating a specific environment location with the process, determining the locations of set resources with respect to the specific location and where at least one set resource is proximate the specific location, providing information related to the process.

Nowhere does this paragraph even suggest that at least one resource equivalency is selected from a set of resource equivalencies. As discussed above, the "set of resources" is not an equivalency set, but a set of resources that each performs a different operation in the automated process. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

Paragraph [0138] of Farchmin merely mentions juxtapositions, which at paragraph [0094] Farchmin states is "how to physically combine" a resource with proximate resources. In particular, paragraph [0138] mentions that an operator can select an appropriate resource juxtaposition. These teachings of Farchmin have nothing to do with a resource equivalency set or selecting a resource equivalency set from a set of resource equivalency sets. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

Paragraph [0032] of Farchmin, merely states a first resource is moved and its location determined. The first resource is then determined to either be or not be part of a set of resources. As discussed above, this set of resources includes resources that

perform different functions with respect to an automated process and **not** substantially identical services. If the first resource is part of the resource set process information related to the resource set is identified as a function of the first resource location. This teaching of Farchmin has nothing to do with selecting a resource from a resource equivalency. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

Paragraph [0120] of Farchmin, merely teaches that when a resource located within a facility is turned on its location is determined. The facility map is then accessed to determine if the resource is within a processing zone or associated with a specific automated process and is configured accordingly. Once again, Farchmin is not teaching the selection of a resource from a resource equivalency. The Applicants cannot understand how the Examiner is comparing determining the location of a resource and configuring the resource based on its location with the presently claimed "selecting at least one resource from the selected resource equivalency". This teaching of Farchmin has nothing to do with this claim element. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

Paragraph [0035] of Farchmin, merely states that communication is established between a plurality of resources and that a first resource generates data useable by other resources. This is completely irrelevant to using the selected resource from the selected resource equivalently. Farchmin teaches using resources throughout the disclosure, but nowhere does Farchmin teach selecting a resource from a resource equivalency and then using this resource. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

(D) The Examiner correctly states that Farchmin does not explicitly disclose:

> storing the set of resource equivalencies in memory, wherein each resource in a resource equivalency performs substantially identical services as other resources in the resource equivalency, the substantially identically services corresponding to the user specification or resource equivalencies.

However, the Examiner goes on to combine Farchmin with Zhang stating that Zhang teaches:

> assigning servers to perform a service is done through groups of servers and super groups of the groups of servers. The resources in the art are the servers. Each server has to (*Sic*) the ability to fullful (*Sic*) the service request. However, busyness or other circumstances prevents the server from being able to perform the requested service (Abstract, column 2,lines 20-25, 29-35, 45-42, column 8, lines 5-11, 33-39, 49-56)

Zhang is directed to a system and method of allocating a resource to a service request. Servers are virtually assigned through a hierarchy including groups of servers and super groups of the groups of servers. Each service request type is associated with a service index that determines both a super group and a load balancing policy for that service request type. A load balancing policy may be applied to select a group of servers among several server groups associated with the super group. Another load balancing policy is applied to the selected group of servers to select a server to handle the service request. The hierarchical data structure allows servers to be configured into overlappable, arbitrary subsets that can address service requests matching configured content rules. Load balancing policies can be selected by service request type.

However, the combination of Zhang with Farchmin still does not teach or suggest the presently claimed:

> identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system, wherein the set of resource equivalencies comprise a resource equivalency representing a plurality of physically distinct resources that are logically equivalent, and wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies, wherein identifying the set of resource equivalencies comprises:
>
> receiving a user specification of resource equivalencies for an autonomic computing system, wherein the specification of resource equivalencies includes at least a resource class type specification and a set of resource relationships associated with a set of resources for

accomplishing a desired end state of the autonomic computing system, wherein the set of resource relationships received from the user only specify relationships associated with a top-most level set of resources in the set of resources, wherein an availability of one or more of the top-most level set of resources is dependent on the availability of one or more resources of a lower level set of resources in a reverse hierarchy of dependencies from top-most level to lowest level set of resources;

creating at least one grouping of resources of the at least one resource class type;

creating a filter from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user;

removing from the at least one grouping of resources any resource that does not match the filter;

defining a set of resources remaining in the at least one grouping as a set of equivalent resources, wherein each resource in the set of equivalent resources perform at least one substantially similar service, the at least one substantially similar service corresponding to the corresponding to the resource class type specification; and

automatically discovering resource attributes related to the user specification of resource equivalencies;

wherein automatically discovering resource attributes comprises:

harvesting implicit relationships among the set of resources via self-discovery, wherein the set of implicit relationships at least indicate one or more of a set of resource dependencies for at least one resource in the set of resources and location requirements for at least one resource in the set of resources, and wherein the set of implicit relationships are discovered automatically without the user explicitly specifying the implicit relationships, wherein the set of implicit relationships are relationships associated from the top-most level set of resources to a lower level set of resources in the set of resources;

discovering an additional resource based on the harvesting;

matching attributes of the additional resource to the filter;

including the additional resource in the set resources remaining in the at least one grouping defined as the set of equivalent resources;

discovering a resource deletion from the autonomic computing system;

determining whether that the resource deletion is represented in the set of resources remaining in the at least one grouping defined as the set of resource equivalencies; and

removing the resource from the set of resource equivalencies; and

nesting two or more sets of equivalent resources within the set of resource equivalencies;

storing the set of resource equivalencies in memory;

selecting at least one resource equivalency from the set of resource equivalencies;

selecting at least one resource from the selected resource equivalency; and

using the selected at least one resource as required by the autonomic computing system to perform at least one service.

Accordingly, the presently claimed invention distinguishes over Farchmin and Zhang individually and/or in any combination with each other for at least these reasons.

(E) With respect to independent claims 15 and 22, Applicants have cancelled independent claims 15 and 22 and combined them into new independent claim 26 and have added language similar to amended claims 1 and 8. The remarks and arguments made above with respect to independent claims 1 and 8 are also applicable to new independent claim 26 where similar language exists. These remarks and arguments will not be repeated.

With respect to the subject matter of independent claims 15 and 22, the Examiner states that Farchmin teaches:

> an equivalency definer, communicatively coupled with each resource in the autonomic computing system, and with the memory, for monitoring, and exchanging data with, each resource in the autonomic computing system (paragraphs [0100], 0119])
>
> a policy generator, communicatively coupled with the memory, for providing in the memory a representation of a system-wide graph of available actions corresponding with each resource in the autonomic computing system (paragraphs [0108-0109])
>
> an automation engine, communicatively coupled with the resource monitor, with each resource in the autonomic computing system, and with the memory, for providing available actions to at least one available resource in the autonomic computing system, the at least one available resource being selected from at least one available resource represented in the at least one equivalency in order for the autonomic computing system to establish and maintain a desired end state (paragraphs [0033, 0138]).

With respect to the equivalency definer, new claim 26 recites:

> an equivalency definer, communicatively coupled with each resource in the autonomic computing system, and with the memory, for identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system, wherein the set of resource equivalencies comprise a resource equivalency representing a plurality of physically distinct resources that are logically equivalent, and wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies,

Farchmin does not teach or suggest this claim element for the reasons stated above with respect to amended claims 1 and 8.

Paragraph [0108] of Farchmin merely teaches process zones within an area and when a resource is present within a process zone there is a high probability that the resource will be added to the sub-set of resources associated with the process zone. Paragraph [0109] of Farchmin merely teaches that resources can be mobile and the process zones can be dynamic and depend upon where the resources are gathered. The Applicants cannot understand how the Examiner can compare adding a resource to a zone and having dynamic processing zones to "providing in the memory a representation of a system-wide graph of available actions corresponding with each resource in the autonomic computing system". Farchmin never mentions creating a system-wide graph of the available actions corresponding to each resource. Assuming arguendo that providing information and juxtaposition information is similar to providing an action, which it is not, Farchmin still does not teach or suggest creating a system-wide graph of these actions. Accordingly, the presently claimed invention distinguishes over Farchmin for at least these reasons as well.

Paragraph [0033] of Farchmin merely teaches "providing information related to a

set of resources that may cooperate in an environment to perform a process...associating a specific environment location with the process, determining the locations of set resources with respect to the specific location and where at least one set resource is proximate the specific location, providing information related to the process." Paragraph [0138] of Farchmin merely mentions juxtapositions, which at paragraph [0094] Farchmin states is "how to physically combine" a resource with proximate resources, as discussed above. Nowhere does Farchmin teach or suggest "...providing available actions to at least one available resource in the autonomic computing system, the at least one available resource being selected from at least one available resource represented in the at least one equivalency in order for the autonomic computing system to establish and maintain a desired end state", as recited for the presently claimed invention. Accordingly, the presently claimed invention distinguishes over Farchmin for at least this reason as well.

As can be seen from the above discussion Farchmin and Zhang alone and/or in combination with each other do not teach or suggest (as recited for claim 1 and similarly for claims 8 and 26):

> identifying a set of resource equivalencies to achieve a desired end state of a an autonomic computing system, wherein the set of resource equivalencies comprise a resource equivalency representing a plurality of physically distinct resources that are logically equivalent, and wherein the desired end state indicates an operational state associated with one or more autonomic computing system elements to be achieved by the autonomic computing system by utilizing one or more resources associated with the set of resource equivalencies without violating relationship specifications associated with the plurality of physically distinct resources associated with the set of resource equivalencies, wherein identifying the set of resource equivalencies comprises:
>
> receiving a user specification of resource equivalencies for an autonomic computing system, wherein the specification of resource equivalencies includes at least a resource class type specification and a set of resource relationships associated with a set of resources for accomplishing a desired end state of the autonomic computing system, wherein the set of resource relationships received from the user only specify relationships associated with a top-most level set of resources in the set of resources, wherein an availability of one or more of the top-most level set of resources is dependent on the availability of one or more resources of a lower level set of resources in a reverse hierarchy of dependencies from top-most level to lowest level set of resources;

creating at least one grouping of resources of the at least one resource class type;

creating a filter from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user;

removing from the at least one grouping of resources any resource that does not match the filter;

defining a set of resources remaining in the at least one grouping as a set of equivalent resources, wherein each resource in the set of equivalent resources perform at least one substantially similar service, the at least one substantially similar service corresponding to the corresponding to the resource class type specification; and

automatically discovering resource attributes related to the user specification of resource equivalencies;

wherein automatically discovering resource attributes comprises:

harvesting implicit relationships among the set of resources via self-discovery, wherein the set of implicit relationships at least indicate one or more of a set of resource dependencies for at least one resource in the set of resources and location requirements for at least one resource in the set of resources, and wherein the set of implicit relationships are discovered automatically without the user explicitly specifying the implicit relationships, wherein the set of implicit relationships are relationships associated from the top-most level set of resources to a lower level set of resources in the set of resources;

discovering an additional resource based on the harvesting;

matching attributes of the additional resource to the filter;

including the additional resource in the set resources remaining in the at least one grouping defined as the set of equivalent resources;

discovering a resource deletion from the autonomic computing system;

determining whether that the resource deletion is represented in the set of resources remaining in the at least one grouping defined as the set of resource equivalencies; and

removing the resource from the set of resource equivalencies; and

nesting two or more sets of equivalent resources within the set of resource equivalencies;

storing the set of resource equivalencies in memory;

selecting at least one resource equivalency from the set of resource equivalencies;

selecting at least one resource from the selected resource equivalency; and

using the selected at least one resource as required by the autonomic computing system to perform at least one service.

(F) Therefore, in view of the foregoing amendments and remarks, the Applicants believe that the rejection of Claims 1-25 under 35 U.S.C. § 103(a) has been overcome. Accordingly, the Applicants request that the Examiner withdraw the rejection and allow Claims 1, 8, and 26.

(G) The Examiner rejected Claims 3-7, 10-14, 19-20, and 24-25 under 35 U.S.C. §103(a), as being unpatentable over Farchmin et al. (U.S. Patent Application Publication No. 2006/0129640) in view of Zhang et al (U.S. Patent No. 7,321,926) and further in view of Hannel at al. (U.S. Patent No. 7,272,625).

Claims 3-7, 10-14, 19-20, and 24-25 have been cancelled. Therefore the rejection of these claims has been rendered moot. However, the Applicants have incorporated one or more of these dependent claims into their respective independent Claims 1 and 8, and into independent Claim 26.

The remarks and arguments made above with respect to independent claims 1, 8, 15, and 22 are also applicable here where similar language exists and will not be repeated. These arguments are also equally applicable to dependent claims 19 and 24.

The Examiner correctly states that:

> Farchmin, in view of Zhang does not explicitly disclose:
>
> receiving at least one resource class type specification from a user for an autonomic computing system;
>
> creating at least one grouping of resources of at least one resource class type;

> creating a filter from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user;
>
> removing from the at least one grouping of resources any resource that does not match the filter;
>
> the at least one substantially similar service corresponding to the corresponding to the resource class type specification.

However, the Examiner goes on to combine Farchmin and Zhang with Hannel stating that:

> Hannel, in an analogous art, teaches resource groups organized in a hierarchy according to class type, (*Sic*) A table includes the resource's ID, the service it provides, etc. A hidden flag indicates whether the resource should be displayed to users who do not belong to the user group having access to the resource. A filter uses resource descriptions such as IP address and location to determine a resource class (column 30, lines 15-65, column 31, lines 1-60).

Applicants respectfully disagree and suggest that the Examiner is mischaracterizing Hannel with respect to the presently claimed invention. Hannel is directed towards a policy enforcement system that receives a request from a first entity to perform an action on the second entity and permits the action only if policies allow that action.

The Examiner cites Col. 30, lines 15-65 and Col. 31, lines 1-60 of Hannel, which have absolutely nothing to do with, among other things, creating a filter from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user.

For example, Hannel is using an access filter to determine if a requested action should or should not be allowed. The access filter uses an IP address of the request to locate a table of class sites. A link in the table is used to locate a table of class site elements. The access filter uses the server IDS obtained from the class site element table to locate tables of class servers. The IP address is used again to locate the table of class

servers corresponding to the server specified in the request at hand. The access filter then uses the links from the Server table to the tables of class Services for the service and can use the port number from the request to find the proper Service table.

Once the access service finds the proper Service table, it can follow the links to the tables of class Resources and locate the Resources table corresponding to the resource in the request. From there, there is a link to a table of class Resource Group Elements which relates resources to the resource group identifiers for the information sets they belong to. The resource group identifiers in turn specify tables of class Resources Group, and these tables have links to tables of class Resource group Tree, from which the hierarchies of resource groups can be determined to which the resource specified in the request belongs. Having done that, the access filter has found the resource groups that are relevant for determining whether the request should be granted.

As can be seen, the access filter identifies the resource groups that the resource specified in the request belong to. Nowhere does Hannel teach or suggest that a filter is created and that the filter is created from a set of attributes that define a required functional attribute of a type of resource corresponding to the resource class type specification received from the user. Also, nowhere does Hannel teach or suggest that any resource that does not match the filter is removed from the at least one grouping of resources. Hannel merely teaches that the access filter, which is a filter that determines if actions should be allowed, finds a resource group that is associated with a resource. Nowhere does Hannel teach that a resource is removed from a resource group when that resource does not match the filter. Accordingly, the presently claimed invention distinguishes over Hannel for at least these reasons.

(H) The Examiner also correctly states with respect to claims 4 and 11 that:

> Farchmin, in view of Zhang, does not explicitly disclose the method and computer readable medium of claims 3, 10, wherein the specifying a type of resource class comprises harvesting implicit relationships among resources via self-discovery.

However, the Examiner states that Hannel teaches:

> resource groups organized in a hierarchy according to class type. A table includes the resource's ID, the service it provides, etc. A hidden flag indicates whether the resource should be displayed to users who do not belong to the user group having access to the resource. A filter uses resource descriptions such as IP address and location to determine a resource class (column 30, lines 15-65, column 31, lines 1-60).

Hannel has already been discussed above and nowhere does Hannel teach "wherein the specifying a type of resource class comprises harvesting implicit relationships among resources via self-discovery". The characterization of Hannel given by the Examiner above has nothing to do with harvesting implicit relationships via self-discovery. The Applicants respectfully suggest that the Examiner has mischaracterized Hannel.

Furthermore, one of ordinary skill in the art would not be motivated by common sense to combine Farchmin, Zhang, and Hannel. For example, the entire focus of Hannel is directed to secure access to "'resources". The Applicants respectfully suggest that the Examiner is misunderstanding what "harvesting" is in the presently claimed invention. For example, on page 9 of the present Office Action, the Examiner argues with respect to claims 4 and 11 that in view of Hannel's capabilities "one of ordinary skill in the art would have found it obvious to implement or incorporate Hannel's resource class type and filter in Farchmin's method enabling the administrator to determine what users have access rights to specific resources."

However, this has nothing to do with the presently claimed "harvesting". The resource groups in both Hannel and Zhang are declared by an administrator where access to these resources is guided by the information, but the resources are not built as part of the harvesting to be determined to be equivalent. As can be seen this is not the same as the "harvesting" element of the presently claimed invention. Hannel is entirely concerned with addressing secure access to "resources", and does not teach resources being equivalent, only that the administrator can associate sets of resources with various security access policies. Therefore, one of ordinary skill in the art would not be

motivated to combine Farchmin, Zhang, and Hannel to teach or suggest harvesting to pull together equivalent resources.

Therefore, in view of the foregoing amendments and remarks, Applicants believe that Farchmin, Zhang, and Hannel individually or in any combination with each other do not teach or suggest amended claims 1 and 8 and new claim 26 nor any dependent claim subject matter incorporated into claims 1, 8, and 26. Accordingly, the rejection of the subject matter of Claims 3-7, 10-14, 19-20, and 24-25, under 35 U.S.C. § 103(a) has been overcome. Therefore, the Applicants request that the Examiner withdraw the rejection and allow Claims 1, 8, and 26.

Conclusion

The foregoing is submitted as a full and complete response to the Official Action mailed July 10, 2008, and it is suggested that pending Claims 1, 8, and 26 are in condition for allowance, or alternatively are in form for appeal. Reconsideration of the rejections and re-examination of the claims are requested. Allowance of Claims 1, 8, and 26 is earnestly solicited.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, or that in any way it would help expedite the prosecution of the patent application, a telephone call to the undersigned at (561) 989-9811 is respectfully solicited.

The present application, after entry of this Response With Amendment, comprises three (3) claims, including three (3) independent claims. Applicants have previously paid for twenty-five (25) claims including six (6) independent claims. Applicants, therefore, believe that an additional fee for claims amendment is currently not due.

The Commissioner is hereby authorized to charge any fees that may be required or credit any overpayment to Deposit Account **50-1556**.

Respectfully submitted,

Date: October 7, 2008

By: /Jose Gutman/

Jose Gutman
Reg. No. 35,171

FLEIT, GIBBONS, GUTMAN
BONGINI & BIANCO P.L.
551 N.W. 77th Street, Suite 111
Boca Raton, FL 33487
Tel (561) 989-9811 Fax (561) 989-9812